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REMARKSRequest for Reconsideration

Applicant has carefully considered the matters raised by the Examiner in the Advisory Action, however, remains of the opinion that patentable subject matter is present. Applicant respectfully requests reconsideration of the Examiner's position based on the amendment to the claims, the Declaration of Mr. Ishikawa and the following remarks.

Claims Status

Claims 1-12 are pending in this Application. Claims 11 and 12 are newly added and specify the amount of organic solvent that is present in the ink. Support for this amendment can be found in the Application on page 31 at lines 3-9. Thus, no new matter has been added by way of the addition of Claims 11 and 12.

Invention

One of the novel aspects of the present Invention is that the ink contains a non-ionic surfactant. The use of a non-ionic surfactant as opposed to no surfactant or another type of surfactant, such as a cationic or anionic, results in an ink with high definition in text printing, good

durability for color mixing and image flatness. This aspect of the present Invention can be seen by viewing the examples in the Application. Specifically, the Examiner's attention is directed to Tables 3-1 and 3-2 on pages 52 and 53 of the Application. Samples 1-4 contained no surfactant, Samples 5-8 contained a cationic surfactant and Samples 9-12 contained an anionic surfactant. These three compositions can be compared to the present Invention as shown in Samples 13 through 32 and contain non-ionic surfactants.

The Declaration of Mr. Ishikawa attests to the fact that these examples were run and the results that are reported in the Application are not prophetic examples but, rather, actual examples. Thus, it is submitted that the Examiner must provide the appropriate weight to these test results and to the fact that the test results demonstrate that non-ionic surfactant far surpasses the use of an anionic, or a cationic surfactant, or the use of no surfactant at all.

Furthermore, the Examiner should take notice that Mr. Ishikawa has attested to the fact that he deems these test results, showing the superiority of the ink with the non-ionic surfactant as opposed to test results of the ink containing an anionic surfactant or a cationic surfactant, to be surprising and unexpected. Mr. Ishikawa states that he would have expected either one of the surfactants to perform as well as the other. Thus, he finds it surprising and unexpected that the non-ionic surfactant far surpasses the other two types of surfactants.

The Examiner had taken the position that Noguchi teaches the use of photo curable aqueous ink compositions with surfactants. In Paragraphs 85 and 86 of Noguchi, he does teach employing that pigments are stabilized in dispersions of water by the action of anionic functional groups. He goes on to state that it is possible to employ aqueous gravure ink which is stable in a non-ionic or anionic system or a pigment dispersion for water-based writing instruments or a known pigment dispersion for ink jets as they are, see Paragraph 85. Noguchi goes on to state in Paragraph 86 that a surfactant having anionic association groups can be used in the pigment dispersion.

Thus, if Noguchi is teaching surfactants in his ink composition, he is teaching anionic ink surfactants or at least groups that have anionic functional groups. As such, it is submitted that Noguchi is actually teaching away from the use of non-ionic surfactants in the ink composition.

The Examiner has turned to Owatari to teach the use of a non-ionic surfactant. Owatari only discloses an ink containing water and an organic solvent. The ink of Owatari contains no curable compounds which are cured through active ray irradiation. Applicant continues to be of the position that the technology background in Owatari is so different than the technology of ray curable inks that it is inappropriate to combine to the teachings of Owatari with the present Invention. Specifically, active ray curable inks become an image component since the polymerizable compound is polymerized by active ray radiation. On the other hand, in the inks of Owatari which used water and an organic solvent, the water and the solvent are absorbed into the recording medium such that only the colorant is left behind. In other words, only the pigments or dyes fix onto the recording medium. Thus, in an active ray curable-type ink, not only is the colorant left behind but, also, the polymerized material. This

means that the properties, such as the viscosity between the two inks prior to curing, are very different. Furthermore, the colorant in the ray curable ink is fixed in the polymer which is cured due to the radiation. In contrast, the colorant in the water based ink, such as in Owatari, is fixed in the recording medium. Because of these different properties between the inks and the way they function with a recording medium, it is impossible to apply additives from one system to the other system with any hope that they will, necessarily, work. One of skill in the art does not expect additives from non-ray curable inks to necessarily function in ray curable inks. Thus, it would not be obvious to one of skill in the art to apply any of the teachings of Owatari to the teachings of the ray curable inks with any hope of obtaining a working composition. The Examiner is reminded that the test for obviousness is not whether it is obvious to try but, rather, whether it is obvious that the two will function together as proposed by the Examiner. As noted in Mr. Ishikawa's Declaration, he considers it surprising and unexpected the non-ionic surfactant outperformed the other surfactants in the ray curable ink.

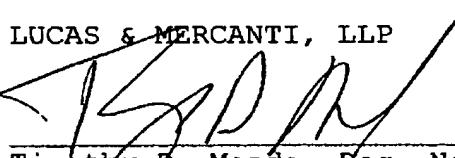
Conclusion

In view of the foregoing and the enclosed, it is respectfully submitted that the Application is in condition for allowance and such action is respectfully requested. Should any fees or extensions of time be necessary in order to maintain this Application in pending condition, appropriate requests are hereby made and authorization is given to debit Account #02-2275.

Respectfully submitted,

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DCL/mr

Encl: Executed Declaration of Mr. Ishikawa signed on  
August 24, 2006